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## U.S. PATENT DOCUMENTS

Examiner's	Cite	U.S. Patent Docu	ıment	Name of Patentee or Applicant of Cited	Date of Publication or Issue of Cited Document MM-DD-YYYY	
Initials #	No.	Number	Kind Code	Document		
		5,087,617		Smith	02-11-1992	
		5,877,309		McKay et al.	03-02-1999	
		5,955,059		Gilchrest et al.	09-21-1999	
		5,997,858		Tovey et al.	12-07-1999	
		6,426,334	B1	Agrawal et al.	07-30-2002	
		6,514,948	B1	Raz et al.	02-04-2003	
		6,534,062	B1	Raz et al.	03-18-2003	
		6,562,798	B1	Schwartz	05-13-2003	
		6,589,940	B1	Raz et al.	07-08-2003	
		6,610,308	B1	Haensler	08-26-2003	
		6,835,395	Bi	Semple et al.	12-28-2004	
<u> </u>		6,893,821	B2	Raz et al.	05-17-2005	
		2001-0036462	<b>A</b> 1	Fong et al.	11-01-2001	
		2002-0065236	A1	Yew et al.	05-30-2002	
		2003-0119773	A1	Raz et al.	06-26-2003	
		2003-0125279	A1	Junghans et al.	07-03-2003	
		2003-0125284	A1	Raz et al.	07-03-2003	
		2003-0138413	A1	Vicari et al.	07-24-2003	
		2003-0143213	A1	Raz et al.	07-31-2003	
		2003-0147870	A1	Raz et al.	08-07-2003	
		2003-0176373	A1	Raz et al.	09-18-2003	
		2004-0006034	A1	Raz et al.	01-08-2004	
		2004-0038922	A1	Haensler et al.	02-26-2004	
		2004-0092468	A1	Schwartz et al.	05-13-2004	
		2005-0209184	A1	Klinman et al.	09-22-2005	
		2005-0214355	A1	Klinman et al.	09-29-2005	
		2005-0282763	A1	Hedley	12-22-2005	

EXAMINER:	DATE CONSIDERED:

<sup>#</sup> EXAMINER: Initial if reference considered, whether or notcitation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTC	0-1449/A and B (r	nodifie	1 DT()/SD/(\%)	APPLICATION NO.:	09/669,187	ATTY. DOCKET NO.: C1039.70035US00
	RMATION 1		,	FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999
	EMENT BY			APPLICANT:	Krieg et al.	
Sheet 2 of 9		GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard		

## FOREIGN PATENT DOCUMENTS

Examiner's	Cite	Fore	eign Patent Docu	ment	Name of Detented on Applicant of Cited	Date of	70 . 1 .:
Initials #	No.	Office/ Country	Number	Kind Code	Name of Patentee or Applicant of Cited  Document	Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		wo	95/17507	Al	Biognostik Gesellschaft Für	06-29-1995	
		wo	96/02560	Al	University of North Carolina at Chapel	02-01-1996	
		wo	98/32462	A1	Wagner et al.	07-30-1998	
		wo	98/49288	A1	Hybridon Inc.	11-05-1998	
		wo	00/15256	A2	Pasteur Merieux Serums Et Vaccins [FR]	03-23-2000	Y-Abstract
		WO	00/45849	A2	Genzyme Corporation	08-10-2000	
. ,		WO	00/61151	A2	The Government of the United States of	10-19-2000	
		wo	00/67787	A2	The Immune Response Corporation	11-16-2000	
		WO	01/45750	A1	Regents of the University of California	06-28-2001	
		WO	02/28428	A2	Aventis Pasteur [FR]	04-11-2002	Y-Abstract
		wo	03/020889	A2	3M Innovative Properties Company	03-13-2003	
		WO	03/025119	A2	Medarex Inc.	03-27-2003	
		WO	03/043572	A2	3M Innovative Properties Company	05-30-2003	
		WO	03/045428	A2	Medigene Aktiengesellschaft	06-05-2003	Y-Abstract

## OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials #	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		[No Author Listed] CpG 7909: PF 3512676, PF-3512676. Drugs R D. 2006;7(5):312-6.	
		AGRAWAL et al., Chapter 19: Pharmacokinetics and bioavailability of antisense oligonucleotides following oral and colorectal administrations in experimental animals. 1998: 525-43.	
		ANITESCU et al., Interleukin-10 functions in vitro and in vivo to inhibit bacterial DNA-induced secretion of interleukin-12. J Interferon Cytokine Res. 1997 Dec;17(12):781-8.	
		ASKEW et al., CpG DNA induces maturation of dendritic cells with distinct effects on nascent and recycling MHC-II antigen-processing mechanisms. J Immunol. 2000 Dec 15;165(12):6889-95.	
		BALLAS et al., Divergent therapeutic and immunologic effects of oligodeoxynucleotides with distinct CpG motifs. J Immunol. 2001 Nov 1;167(9):4878-86.	
		BAUER et al., DNA activates human immune cells through a CpG sequence-dependent manner. Immunology. 1999 Aug;97(4):699-705.	
		BAYEVER et al., Systemic administration of a phosphorothioate oligonucleotide with a sequence complementary to p53 for acute myelogenous leukemia and myelodysplastic syndrome: initial results of a phase I trial. Antisense Res Dev. 1993 Winter;3(4):383-90.	
		BOGGS et al., Characterization and modulation of immune stimulation by modified	

EXAMINER:	DATE CONSIDERED:

<sup>#</sup> EXAMINER: Initial if reference considered, whether or notcitation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

EODM DTO	. 1440/A and D (m	. 4:6:	4 DTO/CD/00)	APPLICATION NO.:	: 09/669,187 ATTY. DOCKET NO.: C1039.700			
FORM PTO-1449/A and B (modified PTO/SB/08)  INFORMATION DISCLOSURE				FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999		
	EMENT BY			APPLICANT:	Krieg et al.			
					1.610			
Sheet	3	of	9	GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard		

	oligonucleotides. Antisense Nucleic Acid Drug Dev. 1997 Oct;7(5):461-71.	
	CARPENTIER et al., Oligodeoxynucleotides containing CpG motifs can induce rejection of a	
	neuroblastoma in mice. Cancer Res. 1999 Nov 1;59(21):5429-32.	
	CARPENTIER et al., Successful treatment of intracranial gliomas in rat by oligodeoxynucleotides	
	containing CpG motifs. Clin Cancer Res. 2000 Jun;6(6):2469-73.	
	CHACE et al., Bacterial DNA-induced NK cell IFN-gamma production is dependent on	
	macrophage secretion of IL-12. Clin Immunol Immunopathol. 1997 Aug;84(2):185-93.	
	CHU et al., CpG oligodeoxynucleotides act as adjuvants that switch on T helper 1 (Th1) immunity.	
	J Exp Med. 1997 Nov 17;186(10):1623-31.	
	COHEN, Selective anti-gene therapy for cancer: principles and prospects. Tohoku J Exp Med. 1992	
	Oct; 168(2):351-9.	
	DAVILA et al., Repeated administration of cytosine-phosphorothiolated guanine-containing	
1	oligonucleotides together with peptide/protein immunization results in enhanced CTL responses	
	with anti-tumor activity. J Immunol. 2000 Jul 1;165(1):539-47.	
	DAVIS, Use of CpG DNA for enhancing specific immune responses. Curr Top Microbiol Immunol.	
- 1	2000;247:171-83.	
	DECKER et al., Immunostimulatory CpG-oligonucleotides cause proliferation, cytokine production,	
	and an immunogenic phenotype in chronic lymphocytic leukemia B cells. Blood. 2000 Feb	
	1;95(3):999-1006.	
	DELEVOYE et al., Eurotech Data: Cancer Chemotherapy, Jan 2000:1-98. Report.	
	GROSSMANN et al., Avoiding tolerance against prostatic antigens with subdominant peptide	
	epitopes. J Immunother. 2001 May-Jun;24(3):237-41.	
	HARTMANN et al., CpG DNA and LPS induce distinct patterns of activation in human monocytes.	
	Gene Ther. 1999 May;6(5):893-903.	
	HEEG et al., CpG DNA as a Th1 trigger. Int Arch Allergy Immunol. 2000 Feb;121(2):87-97.	
	HIGAKI et al., Mechanisms involved in the inhibition of growth of a human B lymphoma cell line,	
	B104, by anti-MHC class II antibodies. Immunol Cell Biol. 1994 Jun;72(3):205-14.	
	HINKULA et al., Recognition of prominent viral epitopes induced by immunization with human	
İ	immunodeficiency virus type 1 regulatory genes. J Virol. 1997 Jul;71(7):5528-39.	
	HOPKIN et al., Curbing the CpGs of Bacterial and Viral DNA. BioMedNet. 1999 Jun25; Issue 57.	
	IHO et al., Oligodeoxynucleotides containing palindrome sequences with internal 5'-CpG-3' act	
	directly on human NK and activated T cells to induce IFN-gamma production in vitro. J Immunol.	
	1999 Oct 1;163(7):3642-52.	
	JAHRSDORFER et al., CpG DNA increases primary malignant B cell expression of costimulatory	
	molecules and target antigens. J Leukoc Biol. 2001 Jan;69(1):81-8.	
İ	KLINMAN et al., Immunotherapeutic applications of CpG-containing oligodeoxynucleotides. Drug	
	News Perspect. 2000 Jun;13(5):289-96.	
	KLINMAN et al., Immunotherapeutic uses of CpG oligodeoxynucleotides. Nat Rev Immunol. 2004	
]	Apr;4(4):249-58.	
	KLINMAN et al., Contribution of CpG motifs to the immunogenicity of DNA vaccines. J Immunol.	

EXAMINER:	DATE CONSIDERED:

<sup>#</sup> EXAMINER: Initial if reference considered, whether or notcitation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTC	0-1449/A and B (m	odifia	4 DTO/CD/00)	APPLICATION NO.:	09/669,187	ATTY. DOCKET NO.: C1039.70035US00
	RMATION E		,	FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999
1	EMENT BY			APPLICANT:	Krieg et al.	
Sheet	4	of	9	GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard

1997 Apr 15;158(8):3635-9.	
KLINMAN et al., CpG motifs present in bacteria DNA rapidly induce lymphocytes to secrete interleukin 6, interleukin 12, and interferon gamma. Proc Natl Acad Sci U S A. 1996 Apr 2;93(7):2879-83.	
KOVARIK et al., CpG oligodeoxynucleotides can circumvent the Th2 polarization of neonatal responses to vaccines but may fail to fully redirect Th2 responses established by neonatal priming. J Immunol. 1999 Feb 1;162(3):1611-7.	
KRANZER et al. CpG-oligodeoxynucleotides enhance T-cell receptor-triggered interferon-gamma production and up-regulation of CD69 via induction of antigen-presenting cell-derived interferon type I and interleukin-12. Immunology. 2000 Feb;99(2):170-8.	,
KRIEG et al., Immune effects and therapeutic applications of CpG motifs in bacterial DNA. Immunopharmacology. 2000 Jul 25;48(3):303-5.	
KRIEG et al., Lymphocyte activation mediated by oligodeoxynucleotides or DNA containing novel un-methylated CpG motifs. American College of Rheumatology 58 <sup>th</sup> National Scientific Meeting. Minneapolis, Minnesota, October 22, 1994. Abstracts. Arthritis Rheum. 1994 Sep;37(9 Suppl).	
KRIEG, CpG DNA: a pathogenic factor in systemic lupus erythematosus? J Clin Immunol. 1995 Nov;15(6):284-92.	
KRIEG et al., CpG motifs in bacterial DNA trigger direct B-cell activation. Nature. 1995 Apr 6;374(6522):546-9.	
KRIEG et al., The role of CpG dinucleotides in DNA vaccines. Trends Microbiol. 1998 Jan;6(1):23-7.	
KRIEG, An innate immune defense mechanism based on the recognition of CpG motifs in microbial DNA. J Lab Clin Med. 1996 Aug;128(2):128-33.	
KRIEG et al., CpG motifs in bacterial DNA and their immune effects. Annu Rev Immunol. 2002;20:709-60.	
KRIEG et al., Causing a commotion in the blood: immunotherapy progresses from bacteria to bacterial DNA. Immunol Today. 2000 Oct;21(10):521-6.	• ***
KRIEG et al., Chapter 8: Immune Stimulation by Oligonucleotides. In: Antisense Research and Application. Crooke, Ed. 1998:243-62.	
KRIEG et al., Bacterial DNA or oligonucleotides containing CpG motifs protect mice from lethal L. monocytogenes challenge. 1996 Meeting on Molecular Approaches to the Control of Infectious Diseases. Cold Spring Harbor Laboratory, September 9-13, 1996:116.	
KRIEG et al., Enhancing vaccines with immune stimulatory CpG DNA. Curr Opin Mol Ther. 2001 Feb;3(1):15-24.	
KRIEG et al., Chapter 7: CpG oligonucleotides as immune adjuvants. Ernst Schering Research Found Workshop 2001; 30:105-18.	
KRIEG, Immune effects and mechanisms of action of CpG motifs. Vaccine. 2000 Nov 8;19(6):618-22.	
KRIEG et al., Chapter 17:Immune stimulation by oligonucleotides. in Antisense Drug Tech. 2001;1394:471-515.	-
KRIEG et al., Mechanisms and applications of immune stimulatory CpG oligodeoxynucleotides.	

EXAMINER:	DATE CONSIDERED:

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or notcitation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO	-1449/A and B (m	nodifie	4 PTO/SD/09)	APPLICATION NO.:	09/669,187	ATTY. DOCKET NO.: C1039.70035US00
FORM PTO-1449/A and B (modified PTO/SB/08)  INFORMATION DISCLOSURE				FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999
	STATEMENT BY APPLICANT			APPLICANT:	Krieg et al.	
Sheet	5	of	9	GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard

	Biochim Biophys Acta. 1999 Dec 10;1489(1):107-16.	
	KRIEG, The role of CpG motifs in innate immunity. Curr Opin Immunol. 2000 Feb;12(1):35-43.	
	KRIEG et al., Mechanisms and therapeutic applications of immune stimulatory CpG DNA.	
	Pharmacol Ther. 1999 Nov;84(2):113-20.	
	KRIEG et al., Sequence motifs in adenoviral DNA block immune activation by stimulatory CpG	
	motifs. Proc Natl Acad Sci U S A. 1998 Oct 13;95(21):12631-6.	
	KRIEG et al., CpG DNA induces sustained IL-12 expression in vivo and resistance to Listeria	
	monocytogenes challenge. J Immunol. 1998 Sep 1;161(5):2428-34.	
	KRIEG et al., CpG DNA: a novel immunomodulator. Trends Microbiol. 1999 Feb;7(2):64-5.	
	KRIEG, Signal transduction induced by immunostimulatory CpG DNA. Springer Semin	
	Immunopathol. 2000;22(1-2):97-105.	
	KRIEG et al., Infection. In: McGraw Hill Book. 1996:242-3.	
	KRIEG et al., Lymphocyte activation by CpG dinucleotide motifs in prokaryotic DNA. Trends	
	Microbiol. 1996 Feb;4(2):73-6.	
	KRIEG et al., Mechanism of action of CpG DNA. Curr Top Microbiol Immunol. 2000;247:1-21.	
	KRIEG, Therapeutic potential of Toll-like receptor 9 activation. Nat Rev Drug Discov. 2006	
	Jun;5(6):471-84.	
	KRIEG et al., Induction of systemic TH1-like innate immunity in normal volunteers following	
	subcutaneous but not intravenous administration of CPG 7909, a synthetic B-class CpG	
	oligodeoxynucleotide TLR9 agonist. J Immunother. 2004 Nov-Dec;27(6):460-71.	
	KRIEG et al., Modification of antisense phosphodiester oligodeoxynucleotides by a 5' cholesteryl	
	moiety increases cellular association and improves efficacy. Proc Natl Acad Sci U S A. 1993 Feb	
	1;90(3):1048-52.	
	KRIEG et al., Direct immunologic activities of CpG DNA and implications for gene therapy. J Gene	
	Med. 1999 Jan-Feb;1(1):56-63.	
	KRIEG et al., A role for endogenous retroviral sequences in the regulation of lymphocyte activation.	
	J Immunol. 1989 Oct 15;143(8):2448-51.	
	KRIEG et al., P-chirality-dependent immune activation by phosphorothioate CpG	
	oligodeoxynucleotides. Oligonucleotides. 2003;13(6):491-9.	
	KRIEG et al., How to exclude immunostimulatory and other nonantisense effects of antisense	_
	oligonucleotides. Manual of Antisense. 1999:79-89.	
	KRIEG et al., Unmethylated CpG DNA protects mice from lethal listeria monocytogenes challenge.	
	Vaccines. 1997; 97:77-9.	
· · · · · · · · · · · · · · · · · · ·	KRIEG et al., Now I know my CpGs. Trends Microbiol. 2001 Jun;9(6):249-52.	_
	KRIEG et al., Rescue of B cells from apoptosis by immune stimulatory CpG DNA. Springer Semin	
	Immunopathol. 2000;22(1-2):55-61.	
	KRIEG et al., Antiinfective applications of toll-like receptor 9 agonists. Proc Am Thorac Soc. 2007	
_	Jul;4(3):289-94.	
	KURAMOTO et al., Changes of host cell infiltration into Meth A fibrosarcoma tumor during the	
	course of regression induced by injections of a BCG nucleic acid fraction. Int J Immunopharmacol.	

EXAMINER:	DATE CONSIDERED:

<sup>#</sup> EXAMINER: Initial if reference considered, whether or notcitation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO	)-1449/A and B (m	odifie	1 PTO/SR/08)	APPLICATION NO.:	09/669,187	ATTY. DOCKET NO.: C1039.70035US00
FORM PTO-1449/A and B (modified PTO/SB/08)  INFORMATION DISCLOSURE			FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999	
	STATEMENT BY APPLICANT			APPLICANT:	Krieg et al.	
Sheet	6	of	9	GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard

KURAMOTO et al., Oligonucleotide sequences required for natural killer cell activation. Jpn J Cancer Res. 1992 Nov;83(11):1128-31.	
KURAMOTO et al., In situ infiltration of natural killer-like cells induced by intradermal injection of	
LEE et al., Immuno-stimulatory effects of bacterial-derived plasmids depend on the nature of the	
LEITNER et al., Nucleic acid for the treatment of cancer: genetic vaccines and DNA adjuvants.	
LIPFORD et al., CpG-containing synthetic oligonucleotides promote B and cytotoxic T cell responses to protein antigen: a new class of vaccine adjuvants. Eur J Immunol. 1997 Sep;27(9):2340-4.	
LIPFORD et al., Immunostimulatory DNA: sequence-dependent production of potentially harmful or useful cytokines. Eur J Immunol. 1997 Dec;27(12):3420-6.	
LIPFORD et al., Bacterial DNA as immune cell activator. Trends Microbiol. 1998 Dec;6(12):496-500.	
LIU et al., Immunostimulatory CpG oligodeoxynucleotides enhance the immune response to vaccine strategies involving granulocyte-macrophage colony-stimulating factor. Blood. 1998 Nov 15;92(10):3730-6.	
LOKE et al., Delivery of c-myc antisense phosphorothioate oligodeoxynucleotides to hematopoietic cells in culture by liposome fusion: specific reduction in c-myc protein expression correlates with inhibition of cell growth and DNA synthesis. Curr Top Microbiol Immunol. 1988;141:282-9.	
MACFARLANE et al., Unmethylated CpG-containing oligodeoxynucleotides inhibit apoptosis in WEHI 231 B lymphocytes induced by several agents: evidence for blockade of apoptosis at a distal signalling step. Immunology. 1997 Aug;91(4):586-93.	
MALTESE et al., Sequence context of antisense RelA/NF-kappa B phosphorothioates determines specificity. Nucleic Acids Res. 1995 Apr 11;23(7):1146-51.	
MANEGOLD et al., Addition of PF-3512676 (CpG 7909) to a taxane/platinum regimen for first-line treatment of unresectable non-small cell lung cancer (NSCLC) improves objective response—Phase II clinical trial. Pfizer Poster. 2005. Abstract 1131.	
MANZEL et al., CpG-oligodeoxynucleotide-resistant variant of WEHI 231 cells. J Leukoc Biol. 1999 Nov;66(5):817-21.	
MARTIN-OROZCO et al., Enhancement of antigen-presenting cell surface molecules involved in cognate interactions by immunostimulatory DNA sequences. Int Immunol. 1999 Jul;11(7):1111-8.	,
McCLUSKIE et al., CpG DNA is a potent enhancer of systemic and mucosal immune responses against hepatitis B surface antigen with intranasal administration to mice. J Immunol. 1998 Nov 1;161(9):4463-6.	·
McCLUSKIE et al., CpG DNA as mucosal adjuvant. Vaccine. 2000;18: 231-7.  McCLUSKIE et al., Oral, intrarectal and intranasal immunizations using CpG and non-CpG oligodeoxynucleotides as adjuvants. Vaccine. 2000 Oct 15:19(4-5):413-22	
McCLUSKIE et al., CpG DNA is an effective oral adjuvant to protein antigens in mice. Vaccine.	
	KURAMOTO et al., In situ infiltration of natural killer-like cells induced by intradermal injection of the nucleic acid fraction from BCG. Microbiol Immunol. 1989;33(11):929-40.  LEE et al., Immuno-stimulatory effects of bacterial-derived plasmids depend on the nature of the antigen in intramuscular DNA inoculations. Immunology. 1998 Jul;94(3):285-9.  LEITNER et al., Nucleic acid for the treatment of cancer: genetic vaccines and DNA adjuvants. Curr Pharm Des. 2001 Nov;7(16):1641-67.  LIPFORD et al., CpG-containing synthetic oligonucleotides promote B and cytotoxic T cell responses to protein antigen: a new class of vaccine adjuvants. Eur J Immunol. 1997 Sep;27(9):2340-4.  LIPFORD et al., Immunostimulatory DNA: sequence-dependent production of potentially harmful or useful cytokines. Eur J Immunol. 1997 Dec;27(12):3420-6.  LIPFORD et al., Bacterial DNA as immune cell activator. Trends Microbiol. 1998 Dec;6(12):496-500.  LIU et al., Immunostimulatory CpG oligodeoxynucleotides enhance the immune response to vaccine strategies involving granulocyte-macrophage colony-stimulating factor. Blood. 1998 Nov 15;92(10):3730-6.  LOKE et al., Delivery of c-myc antisense phosphorothioate oligodeoxynucleotides to hematopoietic cells in culture by liposome fusion: specific reduction in c-myc protein expression correlates with inhibition of cell growth and DNA synthesis. Curr Top Microbiol Immunol. 1988;141:282-9.  MACFARLANE et al., Unmethylated CpG-containing oligodeoxynucleotides inhibit apoptosis in WFHI 231 B lymphocytes induced by several agents: evidence for blockade of apoptosis at a distal signalling step. Immunology. 1997 Aug;91(4):386-93.  MALTESE et al., Sequence context of antisense Rela/NF-kappa B phosphorothioates determines specificity. Nucleic Acids Res. 1995 Apr 11;23(7):1146-51.  MANEGOLD et al., Addition of PF-3512676 (CpG 7999) to a taxane/platinum regimen for first-line treatment of unresectable non-small cell lung cancer (NSCLC) improves objective response—Phase II clinical trial. Pfizer Poster. 2005. Abst

EXAMINER:	DATE CONSIDERED:

<sup>#</sup> EXAMINER: Initial if reference considered, whether or notcitation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM DTC	) 1440/A and B (m	adifia	A DTO/SD/09)	APPLICATION NO.:	09/669,187	ATTY. DOCKET NO.: C1039.70035US00
FORM PTO-1449/A and B (modified PTO/SB/08)  INFORMATION DISCLOSURE				FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999
STATEMENT BY APPLICANT				APPLICANT:	Krieg et al.	
				CDOUD ADT INUT.	1642	EVAMBIED, David I Blanchand
Sheet 7 of 9			GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard	

	2000 Nov 22;19(7-8):950-7.	
	OCHIAI et al., Studies on lymphocyte subsets of regional lymph nodes after endoscopic injection of biological response modifiers in gastric cancer patients. Int J Immunotherapy. 1986;11(4):259-65.  Abstract Only.	
	PAUL et al., Technology evaluation: CpG-7909, Coley. Curr Opin Mol Ther. 2003 Oct;5(5):553-9. Abstract Only.	
	PAYETTE et al., History of vaccines and positioning of current trends. Curr Drug Targets Infect Disord. 2001 Nov;1(3):241-7.	
	PERLAKY et al., Growth inhibition of human tumor cell lines by antisense oligonucleotides designed to inhibit p120 expression. Anticancer Drug Des. 1993 Feb;8(1):3-14.	
	PISETSKY et al., Stimulation of in vitro proliferation of murine lymphocytes by synthetic oligodeoxynucleotides. Mol Biol Rep. 1993 Oct;18(3):217-21.	
	PISETSKY, The influence of base sequence on the immunostimulatory properties of DNA. Immunol Res. 1999;19(1):35-46.	
	POLANCZYK et al., Immunostimulatory effects of DNA and CpG motifs. Cent Eur J of Immunol. 2000;25(3):160-6.	
	RATAJCZAK et al., In vivo treatment of human leukemia in a scid mouse model with c-myb antisense oligodeoxynucleotides. Proc Natl Acad Sci U S A. 1992 Dec 15;89(24):11823-7.	
	SATOH et al., The study of mechanisms in CpG oligodeoxynucleotides-induced aggravation in murine allergic contact dermititis to 2,4-dinitrofluorobenzene. Fukushima Igaku Zasshi. 2002;52(3):237-50. Abstract Only.	
	SCHWARTZ et al., Bacterial DNA or oligonucleotides containing unmethylated CpG motifs can minimize lipopolysaccharide-induced inflammation in the lower respiratory tract through an IL-12-dependent pathway. J Immunol. 1999 Jul 1;163(1):224-31.	
	SESTER et al., Phosphorothioate backbone modification modulates macrophage activation by CpG DNA. J Immunol. 2000 Oct 15;165(8):4165-73.	
	SONEHARA et al., Hexamer palindromic oligonucleotides with 5'-CG-3' motif(s) induce production of interferon. J Interferon Cytokine Res. 1996 Oct;16(10):799-803.	
	SPARWASSER et al., Bacterial DNA causes septic shock. Nature. 1997 Mar 27;386(6623):336-7.  SPARWASSER et al., Bacterial DNA and immunostimulatory CpG oligonucleotides trigger	
	maturation and activation of murine dendritic cells. Eur J Immunol. 1998 Jun;28(6):2045-54.  SPARWASSER et al., Immunostimulatory CpG-oligodeoxynucleotides cause extramedullary murine hemopoiesis. J Immunol. 1999 Feb 15;162(4):2368-74.	
-	SPARWASSER et al., Macrophages sense pathogens via DNA motifs: induction of tumor necrosis factor-alpha-mediated shock. Eur J Immunol. 1997 Jul;27(7):1671-9.	
	STEIN et al., Problems in interpretation of data derived from in vitro and in vivo use of antisense oligodeoxynucleotides. Antisense Res Dev. 1994 Summer;4(2):67-9.	
	STEIN et al., Non-antisense effects of oligodeoxynucleotides. Antisense Technology. 1997; ch11: 241-64.	
	SUN et al. Type I interferon-mediated stimulation of T cells by CpG DNA. J Exp Med. 1998 Dec	

EXAMINER:	DATE CONSIDERED:

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FORM PTC	)-1449/A and B (m	odifia	4 DTO/SD/09)	APPLICATION NO.:	09/669,187	ATTY. DOCKET NO.: C1039.70035US00
FORM PTO-1449/A and B (modified PTO/SB/08)  INFORMATION DISCLOSURE			FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999	
1	STATEMENT BY APPLICANT			APPLICANT:	Krieg et al.	
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21;188(12):2335-42.	
SUN et al. Multiple effects of immunostimulatory DNA on T cells and the role of type I interferons. Springer Semin Immunopathol. 2000;22(1-2):77-84.	
TAKATSUKI et al., Interleukin 6 perfusion stimulates reconstitution of the immune and hematopoietic systems after 5-fluorouracil treatment. Cancer Res. 1990 May 15;50(10):2885-90.	
TANAKA et al., An antisense oligonucleotide complementary to a sequence in I gamma 2b increases gamma 2b germline transcripts, stimulates B cell DNA synthesis, and inhibits immunoglobulin secretion. J Exp Med. 1992 Feb 1;175(2):597-607.	
THREADGILL et al., Mitogenic synthetic polynucleotides suppress the antibody response to a bacterial polysaccharide. Vaccine. 1998 Jan;16(1):76-82.	
TOKUNAGA et al., A synthetic single-stranded DNA, poly(dG,dC), induces interferon-alpha/beta and –gamma, augments natural killer activity, and suppresses tumor growth. Jpn J Cancer Res. 1988 Jun;79(6):682-6.	,
TOKUNAGA et al., Synthetic oligonucleotides with particular base sequences from the cDNA encoding proteins of Mycobacterium bovis BCG induce interferons and activate natural killer cells. Microbiol Immunol. 1992;36(1):55-66.	
TOKUNAGA, Response of the organism to DNA – With a focus on immunostimulatory DNA. Kansen Ensho Meneki. 2001 Autumn; 31(3): 1-12. Japanese.	
VERTHELYI et al., Human peripheral blood cells differentially recognize and respond to two distinct CPG motifs. J Immunol. 2001 Feb 15;166(4):2372-7.	
WARREN et al., APC stimulated by CpG oligodeoxynucleotide enhance activation of MHC class I-restricted T cells. J Immunol. 2000 Dec 1;165(11):6244-51.	
WEERATNA et al., CpG DNA induces stronger immune responses with less toxicity than other adjuvants. Vaccine. 2000 Mar 6;18(17):1755-62.	
WEINER et al., Immunostimulatory CpG oligodeoxynucleotide is effective as an adjuvant in inducing production of anti-idiotype antibody and is synergistic with GMCSF. Blood. 1996 Nov 15;88(10):Suppl. 1 pt. 1. Abstract #348.	
WHITMORE et al., Systemic administration of LPD prepared with CpG oligonucleotides inhibits the growth of established pulmonary metastases by stimulating innate and acquired antitumor immune responses. Canc Immun Immunother. 2001;50:503-14.	
WOOLDRIDGE et al., Select unmethylated CpG oligodeoxynucleotide improve antibody dependent cellular cytotoxicity in vitro and in vivo. Proc Am Assoc Cancer Res. 1996 Mar;37(3253):477.	
WOOLDRIDGE et al., Immunostimulatory oligodeoxynucleotides containing CpG motifs enhance the efficacy of monoclonal antibody therapy of lymphoma. Blood. 1997 Apr 15;89(8):2994-8.	
YAMAMOTO et al., Lipofection of synthetic oligodeoxyribonucleotide having a palindromic sequence of AACGTT to murine splenocytes enhances interferon production and natural killer activity. Microbiol Immunol. 1994;38(10):831-6.	
YAMAMOTO et al., Unique palindromic sequences in synthetic oligonucleotides are required to induce IFN [correction of INF] and augment IFN-mediated [correction of INF] natural killer activity. J Immunol. 1992 Jun 15;148(12):4072-6.	

EXAMINER:	DATE CONSIDERED:		

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FORM PTO-1449/A and B (modified PTO/SB/08)  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  Sheet 9 of 9		FILING DATE: 2000	September 25,	CONFIRMATION NO.: 2999		
		APPLICANT:	Krieg et al.			
		GROUP ART UNIT:	1643	EXAMINER: David J. Blanchard		
Sheet	9	01	9			

action of oligonucleotide fraction extracted from Mycobacterium bovis BCG] Kekkaku. 1994	
Sep;69(9):571-4. Japanese.	
YAMAMOTO et al., Ability of oligonucleotides with certain palindromes to induce interferon	
9.	
YAMAMOTO et al., Oligodeoxyribonucleotides with 5'-ACGT-3' or 5'-TCGA-3' sequence induce	
production of interferons. Curr Top Microbiol Immunol. 2000;247:23-39.	
1997;29(9):1178-1184. Japanese.	
YI et al. Rapid induction of mitogen-activated protein kinases by immune stimulatory CpG DNA. J	
Immunol. 1998 Nov 1;161(9):4493-7.	
YI et al., Rapid immune activation by CpG motifs in bacterial DNA. Systemic induction of IL-6	
and oligodeoxynucleotides. J Immunol. 1996 Jan 15;156(2):558-64.	
YI et al. CpG oligodeoxyribonucleotides rescue mature spleen B cells from spontaneous apoptosis	
and promote cell cycle entry. J Immunol. 1998 Jun 15;160(12):5898-906.	
ZHAO et al., Pattern and kinetics of cytokine production following administration of	
502.	
	YAMAMOTO et al., Ability of oligonucleotides with certain palindromes to induce interferon production and augment natural killer cell activity is associated with their base length. Antisense Res Dev. 1994 Summer;4(2):119-22.  YAMAMOTO et al., Synthetic oligonucleotides with certain palindromes stimulate interferon production of human peripheral blood lymphocytes in vitro. Jpn J Cancer Res. 1994 Aug;85(8):775-9.  YAMAMOTO et al., Oligodeoxyribonucleotides with 5'-ACGT-3' or 5'-TCGA-3' sequence induce production of interferons. Curr Top Microbiol Immunol. 2000;247:23-39.  YAMAMOTO et al., Cytokine production inducing action of oligo DNA. Rinsho Meneki. 1997;29(9):1178-1184. Japanese.  YI et al. Rapid induction of mitogen-activated protein kinases by immune stimulatory CpG DNA. J Immunol. 1998 Nov 1;161(9):4493-7.  YI et al., Rapid immune activation by CpG motifs in bacterial DNA. Systemic induction of IL-6 transcription through an antioxidant-sensitive pathway. J Immunol. 1996 Dec 15;157(12):5394-402.  YI et al., IFN-gamma promotes IL-6 and IgM secretion in response to CpG motifs in bacterial DNA and oligodeoxynucleotides. J Immunol. 1996 Jan 15;156(2):558-64.  YI et al. CpG oligodeoxyribonucleotides rescue mature spleen B cells from spontaneous apoptosis and promote cell cycle entry. J Immunol. 1998 Jun 15;160(12):5898-906.  ZHAO et al., Pattern and kinetics of cytokine production following administration of phosphorothioate oligonucleotides in mice. Antisense Nucleic Acid Drug Dev. 1997 Oct;7(5):495-

EXAMINER:	DATE CONSIDERED:		

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